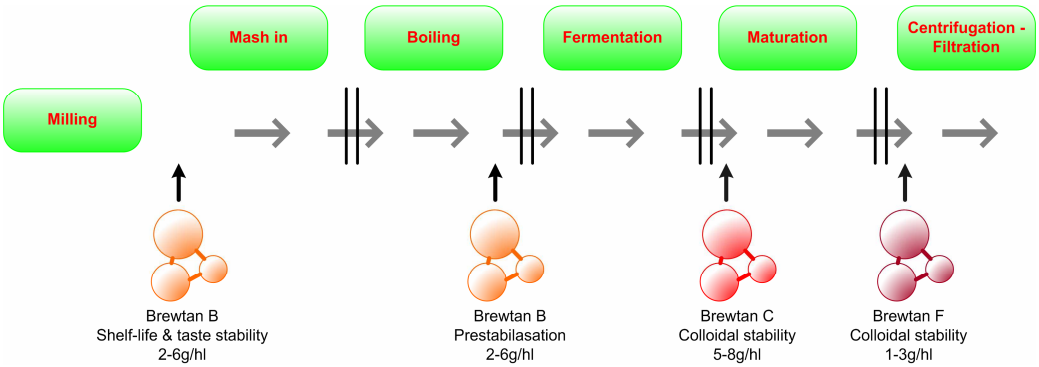
Brewtan® range

>>> Natural solutions for beer stabilisation
Application fact-sheet

>>> INTRODUCTION

Brewtan® B, Brewtan® C and Brewtan® F are **100% natural** gallotannins specially designed for the brewing industry. These tannins react primarily with acid proteins containing SH-groups by adsorption and precipitation. The thus formed tannin-protein adducts are then removed by different methods.
Both colloidal and flavour stability are considered as important quality benchmarks of beer. Even after worldwide transport or after months of storage in supermarkets, beer should still be enjoyable to drink. Brewtan® B, Brewtan® C and Brewtan® F can be used very successfully and economically to give this colloidal and flavour stability.
The diagram below shows the different ways of incorporating gallotannins into the brewing process. This allows brewers to choose the most appropriate product for their requirements, it is also possible to combine two or more of these methods to give a combination of process and stability benefits.



Brewtan® B brings the stabilisation upstream in the brewing process, with an increase in flavour stability when used in mashing in and an increase in colloidal stability when used in boiling. Brewtan® B can also be used simultaneously in mashing and boiling. The Brewtan® B / protein complex is left in the spent grains when used in mashing or removed in the whirlpool when used in boiling.
Brewtan® C is injected proportionally in line before maturation or settling tanks. This is an easy and economical solution for a complete and steady background stabilisation. The Brewtan C / protein complex is removed by sedimentation during maturation.
Brewtan® F is injected in line before end clarification with a filter (Perlite, Kieselguhr) in order to have a perfect stabilization without beer losses. The Brewtan® / protein complex is removed during filtration.

>>> ORIGIN, PRODUCTION

Commercial tannic acid is a naturally occurring mixture of closely related compounds called polygalloyl glucoses or polygalloyl quinic acid derivates. For brewing applications only high molecular tannic acid with a polygalloyl glucose structure is technically suitable.

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Only grades such as the Ajinomoto OmniChem Brewtan® B, Brewtan® C and Brewtan® F are sufficiently purified to eliminate unacceptable high impurity levels of gallic and digallic acid.
For the production of its hydrolysable tannins OmniChem uses a continuous solid/liquid extraction process. The crude extract is further purified using liquid/liquid extraction by appropriate selection of the extraction solvents. Further downstream purification steps (i.e. ion exchange resins, active carbon treatment and filtration) remove a variety of impurities. The purified extract is spray-dried and a granular product is obtained using fluidized bed technology.

>>> PROPERTIES OF BREWTAN® B, BREWTAN® C AND BREWTAN® F

>> Physical properties

- Granulated powder, guaranteeing optimal dissolution and no dust during handling
- No taste in water up to 160ppm (16g/hl) guaranteeing no effect on taste even at the highest recommended dosage levels (i.e. 10g/hl)

>> Chemical properties

- High molecular weight gallotannins extracted and purified from tree-galls or leaves
- Reacts instantly with proteins. Very effective in coagulation and flocculation of proline and / or thiol (-SH) containing proteins
- Doesn't interact with foam active proteins
- Acts as metal-chelating agent. Due to the metal complexing properties, it prevents Fenton's reaction which leads to unpleasant flavours in the final beer
- Protects innate antioxidant properties by acting as a reducing agent[2] and radical scavenger

>> Guarantees for quality

- Guaranteed shelf-life of at least 5 years after production, if stored in dry conditions, protected from light in the original packaging material
- GMO and BSE-free

>> Regulatory approval

- Compliant with latest FCC and FAO- WHO monographs
- Brewtan® is considered as a processing-aid under EU-Food law. In most worldwide food markets (US, Japan, Australia – New Zealand, China, …) Brewtan® is an approved food additive / processing aid. More information is provided in our **FAQ-sheet** "Ajinomoto OmniChem tannins in the brewing industry"

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>>> BREWTAN® B

>> Mashing in

Brewtan® B dissolved in the mash water increases the antioxidant power, inhibits LOX-enzymes, reduces the formation of aldehydes and is a very good metal-chelating agent. This results in a remarkable increase in flavour stability. Also the lautering performance is improved by up to 30%, with a higher extract quality and an increased brewhouse yield.
Typical dosage levels of Brewtan® B at mashing in range between 2 – 6 g/hl, calculated on the volume of final beer. Brewtan® B is added to the mash water prior to the raw materials.

More information is provided in our **Application fact-sheet Brewtan® B – Mashing in**

>> Boiling

Brewtan® B used at the end of boiling is an easy way to obtain a good colloidal stability early in the process. Brewtan® B increases the hot-break formation, whirlpool yield and also improves the antioxidant power of the beer. There are also less tank bottoms, shorter maturation times and longer filter runs with a reduction in processing aids, stabilisers and filter aids.
Typical dosage levels of Brewtan® B at boiling range between 2 – 6 g/hl, calculated on the volume of final beer. Brewtan® B is added just before transfer to the whirlpool or proportionally during transfer to the whirlpool.

More information on this application is provided in our **Application fact-sheet Brewtan® B – Boiling**

>> Combined use: mashing in / boiling

The combined use of Brewtan® B at mashing in and boiling provides the advantages of both approaches. This combination results in an increase of flavour and colloidal stability.
Typical dosage levels of Brewtan® B at mashing in range between 2 – 4g/hl and at boiling between 2 – 5 g/hl, calculated on the volume of final beer.

More information is provided in our **Application fact-sheet Brewtan® B – Combined use: Mashing in / boiling**

>>> BREWTAN® C

Brewtan® C is an effective, reliable and stand-alone stabilisation solution, with a significant increase in colloidal stability and a powerful metal chelating effect.
Typical dosage levels of Brewtan® C at maturation range between 5 – 8 g/hl, calculated on the volume of final beer. Brewtan® C is injected proportionally in line during transfer from fermentation to maturation.

More detailed information is provided in our **Application fact-sheet Brewtan® C**

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>>> BREWTAN® F

Brewtan® F is the most economical and rational beer stabilizer and guarantees long-term stability with an increased antioxidant power. An optimal performance is obtained when used in combination with Perlite and generates no waste at filtration. Brewtan® F can also easily be used in combination with other stabilizing methods.
Typical dosage level of Brewtan® F at end-filtration is 2 g/hl, calculated on the volume of final beer. Brewtan® F is dosed in-line before end-filtration at a temperature of max. 0°C.

More information is provided in our **Application fact-sheet Brewtan® F**

>>> FURTHER INFORMATION

Safety information is provided in our **Material Safety Data Sheet**.
Additional product information regarding Brewtan® B is provided in our **Technical Data Sheets.**.
Upon request a controlled copy of our **Specifications** can be provided by our QC-department.
Every delivery is accompanied by a **Certificate of Analysis**.

Or contact our R&D department.

CAS Nr.: 1401-55-4

EINECS/ELINCS: 215-753-2

FEMA-GRAS: 3042

FAO/WHO INS No: 181

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